Appendix 2

Application 09/376381

Step by Step Apparatus and Process Comparison between Application and Walker

Component	Walker	Application 09/376381 (incorporating new claims where appropriate)	Remarks
Option Contract	Yes	Yes, similar	Subject matter is not option contract since option contract has already been invented , see example of financial options etc.
Option for cargo service	No, Walker's patent is for option to buy an airline ticket.	Patent is for managing cargo service business by applying cargo service option contracts to quantify the risk and diversified it.	Subject matter is different hence 102(e) not applicable. Subject matter applies to different objects and have different properties not inherent from the prior art's use.
Formula and components in the option formula	Option price = B*D*L*C*R*V Where B is a base price for the option. D is a factor related to the number of days remaining before the flight. C is a factor related to the rigidity of the travel plans and V is a factor related to the historical volatility of ticket prices. [Walker's does not show how the data are derived and it is presumed that they are static inputs from terminal, if not it has to link to external reservation systems link to airlines. The claims made no mention of external systems. In the specs, Col 4, 1-15 it mentioned implementation using reservation network] However this proposition is flaw since the reservation system is a pooled system link to airline systems and has accessed to making a reservation only. The reservation system does	$a = Log(CP / FP)$ $b = (BR + 0.5 * SD \wedge 2) * TY$ $c = SD * (TY \wedge 0.5)$ $d1 = (a + b) / c$ $d2 = d1 - SD * (TY \wedge 0.5)$ Cargo Option Fee = (S * Snorm(d1) – FP * Exp(-BR * TY) * SNorm(d2))* L* LD*R* W*T*Q*A*CO Where L is the factor related to load capacity, TY in Years to departure, FP is the Final Price Payable, BR is the borrowing cost of service provider, LD is a factor concerning the historical demand for this type of cargo space, R is a factor concerning flexibility of cargo arrival date, SD is the instantaneous standard deviation of the freight cargo prices in logarithmic returns, CP is the current cargo price, W is a factor concerning the weather on the departure date and arrival date, T is a factor concerning timing	Because both are "option" formula, they do share many recognizable components. However, underlying values are different since they applied to different subject matter. Therefore an option formula for purchasing of a ticket (Walker's) cannot be interchanged for cargo service and vice-versa. The novelty here is not the formula but the underlying components that make up the formula. There is also doubt whether Walker's is really an option formula. Note that data are queried and sourced from individual cargo systems which decide based on the data received against its internal requirements whether to provide return values in order to calculate the price of the option.

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	not return values like desirability of the customer since such privilege data is stored in respective airlines' system.	of departure date such as in holiday period or otherwise, Q is factor for type of cargo including weight, dimensions, A is for type of transporter and CO is for number of competition on the same route;	\
Values inputted by client	Departure location, destination location, travel criteria	Date of arrival for cargo, destination of cargo, flexibility, type of cargo, the final price payable on departure of cargo and route criteria from client computer. Client can also input their prices for a contract as an offer to purchase. Clients can ask for past transaction data and latest cargo prices.	Cargo being of various types have substantially more requirements than a human. For example, delivery of a donor heart is treated differently than ordinary mail. In the donor heart situation an option is required as uncertainties are higher.
Hardware/Software	Host Computer and Terminal and connections. Customer database and Option database. Client/Server relationship.	Host Computer, Terminal devices, network, cargo systems, financial network. Registered customer database and Option database.	Both use a network approach, however in my invention, users have to be registered (approval process) and its central host is a gateway while Walker's is a processor.
Participants	Air travelers, going through airline agents. This is a Business to Consumer Model.	Cargo service providers, registered users, cargo agents, Designed for Business to Business where cargo service providers are 'match' with approved registered users.	Hence market participants can make offers and accept offers with each other. Clients can input final price payable and cargo system can decide whether to accept based on this criterion alone without going further into checking for availability. This is in contrast with Walker's patent where it is sold to customers only and customer can only deal with one carrier.
Electronic Market with seller and buyer information and updating procedures to reflect assignment of	No, Walker's invention has to sell the ticket at the option price. What is important to note is that in my invention, a core	Yes, participants can search and solicit bids and offers subject to approval by host computer.	Participants able to set individual prices for the option rather than agreeing with the resultant price as

options.	number of cargo providers provide market pricing at calculated option price (known as market maker) on request. Once they have quoted (several option prices are shown at the same time over the host computer which means, any registered user logged into the system at that particular time would be able to bid or offer similar options. Similarly, they also reserve the right to refrain from quoting.		determined by the formula. This is a critical difference ie buying and selling off risk to manage overall cargo business risk is the main theme of this invention.
Exercise of Options	Yes on exercise, a ticket is sold.	Yes on exercise, contracted cargo service is provided.	Yes, participants can exercise anytime. This is an inherent feature of any option contract.
Host/Central Computer	Yes, it appears that host computer is selling the options to the customers. Client/Server relationship.	Yes, the host computer here is but an agent for the service providers which systems are network to the it. Host computer does not sell or buy any options under its authority. It has a software that calculates the theoretical option price from values provided by various service providers. Registered users may input their values to calculate the option price as well. Host computer updates data, make and receive payment on behalf of its clients and registered users. Host computer provides the software to search, update prices, execute transactions, exercise options etc. Host computer is an enhanced gateway here.	Roles are different

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Process Comparison	Walker	Application 09/376381	Remarks
Data input from terminal	Yes	Yes	Same
Request from User	Yes	Yes but registered user	Need to log in and authenticate
Data check at host server	No sure	Yes before passing to cargo system	
Data sent to other system for verification and await response	No data go straight into host computer	Yes sent to cargo system	
Response from cargo system	No data go straight into host computer	Yes depending on data received from host server and availability of dates requested.	
Data Return	Data return from host server in the form of a related factor to be inserted into the formula. Data are either static or constant variables or internally determined by host computer. If link to any external system (as per specs but not in claim, it is only as far as to a airline reservation system.	Data return from cargo system can be positive with string of raw data or negative which means no data. Data return are Live data and hence have limited life offer say within the next 5 mins.	
Manipulation of data	Yes are converted to a predetermined factor before being entered into a formula.	Yes to ensure uniformity, raw data received from cargo systems are individually reassign value/factors to be inserted into a formula in the host computer. Some data may be raw ie without any factorization like standard deviation which is direct from cargo system where as in Walker it is factor into some variable..	Some differences.
Checking other factors	Yes, check to see past option pricing to relate to current pricing.	User can check other prices online but system do not check past data to make comparison.	However, past transaction data may be used to discover implied volatility but this is not part of the formulation and merely administrative in order to improved determinants in the option formula.
User Response	User can take price or reject or change initial	User can choose between all the prices	

	parameters	for the contracts if more than one cargo systems response. User can re-enter data again by changing initial values. User can search other offerings based on dates, type of cargo, destination etc. User can reject the offers.	
Accepting offer	On accepting, the offer the option is sold to the user, and record is updated.	On confirmation of acceptance, Host computer query the selected cargo system a final time before accepting the purchase. Record is updated to reflect the sale or purchase	Extra step to check with the seller to ensure such offer is still there as prices may have moved or space no longer available.
Payment	Uses a credit card	Uses a bank account	Because of the larger amount, credit card is not appropriate.
Record Updating	Records are updated	Records are updated and are available for other users to see.	Successful transactions are posted to a transaction database and make available to other users. Open or ready contracts are also made available. Open means, targeted user has rejected the offer and as such made it available to others in the system for a limited time.
On exercise	Uses a credit card and records are reflected	Uses a bank account and records are updated.	Similarly updates the transaction database.